

### INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



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# "CLIMATE CHANGE 2007, THE PHYSICAL SCIENCE BASIS" WORKING GROUP I CONTRIBUTION TO THE IPCC FOURTH ASSESSMENT REPORT

# CHANGES TO BE MADE TO THE UNDERLYING REPORT FOLLOWING APPROVAL OF THE SUMMARY FOR POLICYMAKERS

(Submitted by the Co-chairs of Working Group I)

Acceptance of the Working Group I contribution to the IPCC Fourth Assessment Report by the Tenth Session of Working Group I is subject to the implementation of changes to the underlying report to ensure consistency between the Summary for Policymakers and the underlying report.

E-mail: IPCC-Sec@wmo.int

Website: http://www.ipcc.ch

#### 1. Background

Consistent with Section 4.2 of the IPCC procedures, Coordinating Lead Authors have identified some changes to the underlying report that will ensure consistency with the language used in the approved Summary for Policymakers, or provide additional clarification as agreed at the Working Group Session. These changes do not alter any substantive findings of the final draft of the underlying report as distributed to governments on 27 October 2006.

Note that the final draft of the underlying Working Group report is also subject to copy-editing and minor corrections in proof as normally applied to scientific reports.

#### 2. Changes to be made to the underlying report

The following table lists those changes that will be made in the underlying report of the Working Group I contribution to the IPCC Fourth Assessment Report following the line by line approval of its Summary for Policymakers.

Note that page and line numbers for the SPM and underlying report below are all based on the numbering used in the final drafts as distributed to governments on 27 October 2006.

| SPM<br>Page: Line<br>or figure | Chapter or<br>Technical<br>Summary (TS) | Chapter<br>Page: Line | Summary   |
|--------------------------------|---|-----------------------|---|
| 1:32                           | TS                                      | 8:33                  | Clarify that section 7.4 justifies attribution of changes in atmospheric methane to human activities as being at least "very likely"  |
| SPM footnote 2                 | TS                                      | 5:52<br>footnote 2    | Add explanation that positive forcing warms, negative cools in footnote   |
| 5:1                            | TS                                      | 17:44                 | Add total global temp increase from 1850 - 1899 to 2001 - 2005 from Chapter 3 Exec Summary  |
| 5:1                            | TS                                      | 17:53                 | Add Urban Heat Island uncertainty value of (0.006°C decade-1) from Section 3.2.2.2.   |
| 5:1                            | TS                                      | 63:9<br>Fig TS-6      | Use Chapter 3 Exec Summary first bullet statement for temperature change in caption text for figure TS-6  |
| 5:17                           | TS                                      | 24:50                 | Correct "about 90%" to "more than 80%."   |
| 6:28                           | TS                                      | 21:14;<br>21:18       | Use more detailed language from SPM regarding tropical cyclone activity in the North Atlantic and other regions   |
| 6:36                           | TS                                      | 18:4                  | Clarify that data used in TAR for Diurnal Temperature<br>Range trends was for 1950 to 1993  |
| 8:38                           | TS                                      | 36:14<br>9:5          | Use language from Table 9.4 on observed tropospheric warming and stratospheric cooling being <i>very likely</i> attributable to greenhouse gas increases and stratospheric ozone depletion. |
| 11:14                          | TS                                      | 41:37                 | Replace warming projections with revised numbers from Chapter 10 following small correction to method of calculation.   |
| 11:23                          | TS                                      | 41:51                 | Clarify text on improvements in modeling since TAR, e.g., can now give best estimates and likely ranges. Add information on differences in approach between AR4 and TAR from Chapter 10.    |
| 11:23                          | TS                                      | 42:26                 | Use absolute numbers rather than relative changes to describe scope of accelerated ice dynamics effects on SLR  |
| 13:18                          | TS                                      | 42:54                 | Clarify that statements on changes in MOC are based on current models   |
| 13:30                          | TS                                      | 47:35                 | Add absolute values of cumulative CO <sub>2</sub> emissions in 21st century for the stabilization cases considered from Chapter 10 as done in SPM   |
| Fig SPM-6                      | TS                                      | Fig TS-28             | Edit figure caption using better language from Fig SPM-6  |
| Fig. SPM-2                     | TS                                      | Fig TS-5              | Replace upper panel with that used in Fig SPM-2 showing   |

|            |    |             | net anthropogenic bar for comparison.   |
|------------|----|-------------|---|
|            |    |             | Change "contrail cirrus" to "linear contrails"  |
| SPM Table  | TS | 30:8        | Add explanatory footnotes, and edit column and row titles,  |
| 2          |    | Table TS-4  | as done for SPM.  |
| SPM Table  | TS | 41:         | For clarity add new projections table SPM-3 to TS.  |
| 3          |    |             |   |
| Fig. SPM-2 | 2  | Fig 2.20,   | Replace upper panel with that used in Fig SPM-2 showing   |
|            |    | FAQ 2.2 bar | net anthropogenic bar for comparison.   |
|            |    | chart       | Change "contrail cirrus" to "linear contrails"  |
| 5:6        | 3  | 4:43        | Add Urban heat Island uncertainty value of (0.006°C   |
|            |    |             | decade-1) from section 3.2.2.2 to chapter Exec Summary.   |
| 5:39       | 3  | 4:49        | Add Arctic temperature text from chapter to Exec Summary  |
| 6:28       | 3  | 6:40        | Change 'tropical cyclone intensity' to 'tropical cyclone  |
|            |    |             | activity'   |
| 6:36       | 3  | 11:26       | Clarify that data used in TAR was from 1950 to 1993   |
| 5:47       | 4  | 3:50        | Use some language from SPM for clearer summary of   |
|            |    |             | section 4.6.2 noting that increased ice sheet mass loss has   |
|            |    |             | often followed thinning, reduction or loss of ice shelves or  |
|            |    |             | loss of floating glacier tongues.   |
| 6:1        | 4  | 4:8         | Add spring decrease figure for seasonally frozen ground to  |
|            |    |             | Exec Summary from Section 4.7.3.2  Change "12 <sup>th</sup> to 14 <sup>th</sup> and 17 <sup>th</sup> to 19 <sup>th</sup> centuries" to "12th to |
| 7:31       | 6  | 34:5        | Change "12 <sup>th</sup> to 14 <sup>th</sup> and 17 <sup>th</sup> to 19 <sup>th</sup> centuries" to "12th to                                    |
|            |    |             | 14th, 17th and 19th centuries" for accuracy   |
| 8:6        | 6  | 4:5         | Change "Warmer than the 20 <sup>th</sup> century" to "Higher than   |
|            |    |             | present" for accuracy   |
| Fig SPM-1  | 6  | Fig. 6.4    | Change axis label to "years before 2005"  |
| 10:45      | 10 | 65:42       | For clarity, add text comparing committed warming trend   |
|            |    |             | with near term warming for SRES cases.  |
| 11:14      | 10 | 3:41;       | Replace temperature projections with corrected values due   |
|            |    | 54:40       | to small revision in method of extracting statistics from   |
|            |    |             | model results.  |
| 11:23      | 10 | 56:35       | Clarify text about correlation of global average temperature  |
|            |    |             | change across models with thermal expansion caused by   |
|            |    |             | spread in surface warming and model-dependence.   |
| 11:23      | 10 | 63          | Use final corrected values in Table 10.7 as in SPM for sea  |
|            |    | Table 10.7  | level rise (SLR) projections  |
| 11:23      | 10 | 64:35       | revise "60-70%" to "70-75%" to match corrected SLR  |
|            |    |             | values  |
| 11:23      | 10 | 64:47       | Add the uncertainty value to "0.32 mm yr <sup>-1</sup> "  |
| 11:23      | 10 | 65:8        | Use absolute values (0.1 - 0.2 m) rather than percentages to  |
|            |    |             | characterize scope of possible accelerated ice sheet flow to  |
|            |    |             | SLR.  |
| 11:23      | 10 | 105:14      | Add text to Appendix 10.A to clarify methodological   |
|            |    |             | differences between the TAR and AR4 and the main  |
|            |    |             | sources of uncertainty.   |